

What is claimed is:

- 1 1. A method of transmitting data over a source synchronous communications
2 interface, the method comprising:
3 (a) receiving a source synchronous data strobe signal driven by a data
4 source during a data transfer from the data source; and
5 (b) disabling a data latch from latching data received from the data source
6 whenever the data source is not driving the source synchronous data strobe signal.
- 1 2. The method of claim 1, wherein disabling the data latch comprises gating the
2 source synchronous data strobe signal.
- 1 3. The method of claim 2, wherein gating the source synchronous data strobe
2 signal comprises applying a gate signal to the data latch that enables latching by the data
3 latch only when the gate signal is asserted, wherein the gate signal is asserted proximate a
4 start of a data transfer from the data source, and deasserted proximate an end of the data
5 transfer from the data source.
- 1 4. The method of claim 3, wherein applying the gate signal comprises asserting
2 the gate signal responsive to a synchronous enable signal that is asserted proximate the
3 start of the data transfer from the data source.
- 1 5. The method of claim 4, wherein applying the gate signal further comprises
2 deasserting the gate signal responsive to a synchronous postamble signal that is asserted
3 proximate the end of the data transfer from the data source.
- 1 6. The method of claim 1, further comprising locally tracking progress of the data
2 transfer from the data source.

1 7. The method of claim 6, wherein locally tracking the progress of the data
2 transfer includes counting cycles of the source synchronous data strobe signal to track
3 data transfer cycles during a data transfer from the data source.

1 8. The method of claim 7, wherein locally tracking the progress of the data
2 transfer further includes indicating whenever the number of data transfer cycles is
3 equivalent to a burst length for the data transfer.

1 9. The method of claim 1, wherein the data source comprises a synchronous
2 dynamic random access memory (SDRAM), and wherein the source synchronous
3 communications interface comprises an SDRAM memory interface.

1 10. The method of claim 9, wherein the data source comprises a double data rate
2 (DDR) SDRAM, and wherein the source synchronous communications interface
3 comprises a DDR SDRAM memory interface.

1 11. The method of claim 1, wherein gating the source synchronous data strobe
2 signal comprises:

3 (a) incrementing a counter and outputting a burst length signal that
4 indicates whether the counter stores a value equivalent to a predetermined burst
5 length;

6 (b) performing a logical AND operation on the burst length signal and a
7 synchronous postamble signal and outputting therefrom a first output signal,
8 wherein the synchronous postamble signal is asserted proximate the end of a data
9 transfer from the data source;

10 (c) performing a logical OR operation on the first output signal and a
11 synchronous enable signal and outputting therefrom a gate signal, wherein the
12 synchronous enable signal is asserted during the data transfer from the data
13 source; and

1 (d) performing a logical AND operation on the gate signal and the source
2 synchronous data strobe signal and outputting therefrom a gated source
3 synchronous data strobe signal that is coupled to the data latch.

1 12. The method of claim 11, wherein incrementing the counter is performed in
2 response to a logically-inverted gated source synchronous data strobe signal, and wherein
3 the method further comprises logically-inverting the burst length signal prior to
4 performing the logical AND operation.

1 13. The method of claim 1, wherein disabling the data latch comprises controlling
2 a select input on a multiplexer coupled to an input of the data latch to select a first input
3 among first and second inputs for the multiplexer, wherein the first input of the
4 multiplexer is coupled to an output of the data latch, and the second input of the
5 multiplexer is coupled to receive the data from the data source.

1 14. The method of claim 1, wherein the source synchronous data strobe signal
2 comprises a DQS signal from a synchronous dynamic random access memory (SDRAM)
3 during a transfer of read data from the SDRAM.

- 1 15. A method of transferring read data from a synchronous dynamic random
- 2 access memory (SDRAM) over a source synchronous communications interface, the
- 3 method comprising:
- 4 (a) receiving a source synchronous DQS signal driven by the SDRAM
- 5 during a data transfer of read data from the SDRAM; and
- 6 (b) selectively disabling a data latch from latching data received from the
- 7 SDRAM source whenever the SDRAM is not driving the DQS signal.